

What we claim is:

1. A storage system comprising a plurality of storage devices and a storage control unit for controlling the plurality of storage devices, the storage control unit comprising:
a first interface for connection to a computer;
a memory for storing a program which, when replicating data in the plurality of storage devices, is capable of selecting a destination volume considering the characteristics of the source volume;
a CPU for executing the program; and
a second interface for connection to the plurality of storage devices.
2. The storage system of claim 1, wherein the type of the storage device holding the source volume is used as the characteristics of the source volume.
3. The storage system of claim 1, the storage control unit further comprising a cache for temporarily holding part of the input data coming from or output data to be sent to the computer, wherein if the source volume is allocated to a first storage area in the cache the program is capable of selecting as the destination volume a volume corresponding to the first storage area in the cache.
4. The storage system of claim 1, further comprising an another storage system interconnected via a communication network, so arranged that a replication of the contents of a storage volume in one storage system is stored in the other.
5. The storage system of claim 1, wherein, in selecting a destination volume, the program is further capable of taking into consideration the priority stored in the memory among a plurality of characteristics specified for the source volume, if more than one characteristic is specified for the source volume.
6. The storage system of claim 1, further comprising a third interface for connection to a management server, wherein, in selecting a destination volume, the program is

further capable of taking into consideration a kind of information entered through the management server.

7. The storage system of claim 6, wherein the memory stores the kind of information entered through the management server and, together with a means of association with this kind of information, another kind of information prescribing the algorithm for determining a destination volume, and the program is further capable of selecting a destination volume based on the combination of the two kinds of information.
8. A method for selecting a destination volume in a storage system comprising a plurality of storage devices and a storage control unit that controls them and is equipped with a memory and making a replication of the contents of volumes, the method comprising the steps of:

checking the characteristics of the source volume,

selecting a destination volume considering the characteristics of the source and candidate destination volumes, and

replicating the contents of the source volume into the destination volume.
9. The method of claim 8, further comprising, if the source volume is allocated in a first storage area inside a cache for temporarily holding part of the input data coming from or output data to be sent to a computer, the step of selecting a volume corresponding to the first storage area as the destination volume.
10. The method of claim 8, further comprising, if the source volume has more than one characteristic, the step of selecting a destination volume considering the priority information pre-registered in the memory.
11. The method of claim 8, further comprising the step of selecting a destination volume considering a first kind of information entered through a management server connected to the storage system.

12. The method of claim 11, wherein the memory stores the first kind of information and, together with a means of association with the first kind of information, a second kind of information prescribing the algorithm for determining a destination volume, and the program is further capable of selecting a destination volume based on the combination of the first and second kinds of information.
13. A network-connected storage system comprising a first group of storage devices on which logical storage areas are constructed, a second group of storage devices on which logical storage areas are constructed, and a storage control unit for controlling the first and second groups of storage devices, the storage control unit comprising:
- a first interface for connecting the first group of storage devices;
 - a second interface for connecting the second group of storage devices;
 - a memory holding a first set of information on the characteristics, including the type of the interface with the storage control unit, of the first and second groups of storage devices and a second set of information on the logical storage areas constructed on the first and second groups of storage devices;
 - a means of referencing the first and second sets of information in the memory in selecting a logical storage area into which the contents of a specified logical storage area constructed on the first or second group of storage devices are to be replicated;
 - a means of checking whether free logical storage areas are available on a group of storage devices having the same interface as the first or second interface, based on the results of referencing the first and second sets of information using the means of referencing; and
 - a means of securing, in the free logical area found to be available using the means of checking such availability, an area for storing a replication of the contents of the specified logical storage area in the first or second group of storage devices.

14. The network-connected storage system of claim 13, wherein the memory further holds a first table holding, for each storage device, information on the type of its interface and the type of RAID defined on it and a second table holding, for each logical storage area, information on the characteristics of logical groups constructed on the first or second group of storage devices corresponding to it.
15. The network-connected storage system of claim 14, wherein the memory further holds a third table holding information on pairs of source and destination logical storage areas and a means is provided of registering in the third table the pair of the specified source storage area and its corresponding destination logical storage area secured using the means of securing.
16. The network-connected storage system of claim 13, further comprising a cache that temporarily holds part of information stored in a logical storage area defined on the first or second group of storage devices and a means of determining whether the unit of dividing the cache matches the characteristics of the first or second group of storage devices.
17. The networked storage system of claim 14, the memory further holding a table holding the selection priority among a plurality of characteristics of each storage device, wherein the means of checking the availability of free storage areas carries out the checking according to the selection priority registered in the table.
18. A volume management method for managing data replication in a storage system comprising a first group of storage devices which are connected through a first interface and on which logical storage areas are constructed, a second group of storage devices which are connected through a second interface and on which logical storage areas are constructed, and a storage control unit that controls the first and second groups of storage devices through the first and second interfaces and is equipped

with a memory, the volume management method comprising:

storing in the memory the information on the characteristics, including the type of interface, of the first and second groups of storage devices and the information on the characteristics of volumes constructed on the first or second group of storage devices;

referencing the information stored in the memory in selecting a destination volume for a specified volume constructed on the first or second group of storage devices;

checking, using the result obtained in the referencing step, whether free volumes are available among the volumes constructed on a group of storage devices having the same interface as the first or second interface; and

securing, if the checking has proved positive, an area, in the free volume found in the checking step, for creating a replication of the contents of the specified volume constructed on the first or second group of storage devices.

19. The volume management method of claim 18, further comprising the step of registering the pair of the source volume and the secured destination volume in the memory.

20. The volume management method of claim 18, further comprising the step of, if the checking has proved negative, creating a volume having the same characteristics as the source volume on a storage device having the same characteristics as the first or second group of storage devices on which the source volume is constructed, and the step of registering in the memory the volume thus created as the destination volume.